



# The Business Council for Sustainable Energy

Promoting a Sustainable  
Trade Agenda  
Under the WTO:

Opening Clean  
Energy Markets

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Opening Clean Energy Markets***

**March 2000**

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The Business Council for Sustainable Energy (BCSE) is an industry trade group that was created in 1992 by companies concerned about the economic, national security and environmental impacts of energy production and use. Its members include industry trade associations and companies in the energy efficiency, natural gas, renewable energy and electric utility industries. The Council's current Chairman is Scott Weiner, Senior Vice President, Solutia Energies. For more information, or to become a member, contact the Council at the address below.

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## ACRONYMS

<b>APEC</b>	<b>ASIA-PACIFIC ECONOMIC COOPERATION</b>
<b>ATL</b>	<b>ACCELERATED TARIFF LIBERALIZATION</b>
<b>ESC</b>	<b>ENERGY SERVICES COALITION</b>
<b>ESCO</b>	<b>ENERGY SERVICE COMPANY</b>
<b>EU</b>	<b>EUROPEAN UNION</b>
<b>EVSL</b>	<b>EARLY VOLUNTARY SECTORAL LIBERALIZATION</b>
<b>GATS</b>	<b>GENERAL AGREEMENT ON TRADE IN SERVICES</b>
<b>GATT</b>	<b>GENERAL AGREEMENT ON TARIFFS AND TRADE</b>
<b>MEA</b>	<b>MULTILATERAL ENVIRONMENTAL AGREEMENT</b>
<b>NAFTA</b>	<b>NORTH AMERICAN FREE TRADE AGREEMENT</b>
<b>NTB</b>	<b>NON-TARIFF BARRIER</b>
<b>SCM</b>	<b>AGREEMENT ON SUBSIDIES AND COUNTERVAILING MEASURES</b>
<b>TRIPS</b>	<b>AGREEMENT ON TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS</b>
<b>UNFCCC</b>	<b>UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE</b>
<b>WTO</b>	<b>WORLD TRADE ORGANIZATION</b>

## INTRODUCTION

Expanding markets for clean energy technologies and fuels such as natural gas, renewable energy and energy efficiency accelerates economic growth and helps protect the environment. Trade liberalization<sup>1</sup> is a vehicle to open new markets for these industries by reducing tariffs on products and lifting non-tariff trade barriers (NTBs). The tension between trade liberalization and sustainable development,<sup>2</sup> which was evident during the December 1999 World Trade Organization (WTO) Ministerial Conference in Seattle, Washington, creates an even greater urgency to demonstrate compatibility between these goals. Opening markets for clean energy products and services can result in direct environmental benefits and the achievement of sustainable development. Political will to open clean energy markets may also have the potential to build support for a new trade negotiating round.

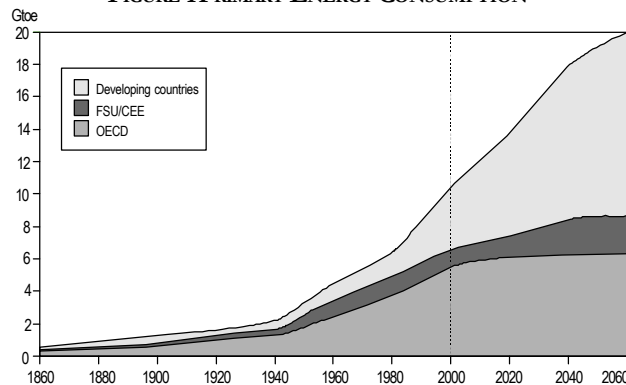
Trade liberalization in clean energy products and services<sup>3</sup> has several immediate benefits. First, it demonstrates that the environment can benefit from an increase in free trade. Clean energy technologies help consumers reduce energy consumption and improve the efficiency of energy production and use. Increased efficiency in energy systems reduces pollution, protects natural resources and improves human health. For example, switching to low-carbon fuel sources like natural gas or renewable energy reduces or avoids greenhouse gas emissions that contribute to global climate change as well as urban air pollution. Investments in energy efficiency save consumers money and conserve natural resources, which creates wealth and improves living standards.

As a result of these benefits, clean energy market development is consistent with several non-trade related environmental policy objectives. Specifically, opening markets for clean energy technologies facilitates technology transfer from developed to developing countries, reduces greenhouse gas emissions, and contributes to poverty alleviation.

Second, improving market access for the clean energy sector has the potential to attract support from developing countries. Developing countries are expected to substantially increase their energy infrastructure investments over the next several decades to meet growing energy demand. Using current trends, energy consumption in developing countries is expected to grow by 2.6 percent annually until 2020, matching the expected consumption of developed countries by 2015, and doubling it by 2050

(Figure 1).<sup>4</sup> According to the World Bank, developing countries will require investments of over \$100 billion per year for the next thirty years to meet their electricity needs.<sup>5</sup> The World Bank also estimates that developing countries are losing about \$350 billion per year due to the loss of productivity and lower life expectancy caused by local air pollution.<sup>6</sup> Therefore, developing countries will increasingly seek more cost-effective and efficient energy sources and services. Open markets provide access to more sustainable and affordable energy options.

FIGURE 1 PRIMARY ENERGY CONSUMPTION



Source: World Energy Council, World Bank.

The graph for the period 2000–2060 shows a scenario of future energy consumption based on current trends.

The Ministerial in Seattle showed that the WTO negotiation process must adapt to accommodate new members, including many developing countries. Membership in the WTO has grown to 135 members, up from about 90 members of the General Agreement on Tariffs and Trade (GATT) at the start of the Uruguay Round in 1986. Roughly 80 percent of the current members are developing countries, although some are at more advanced stages of development than others and have different

<sup>1</sup> Liberalization is the opening of markets through the lowering or removal of trade barriers, including tariffs and/or other restrictions (i.e., policy barriers, subsidies, etc.).

<sup>2</sup> The term sustainable development refers to economic development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” *Our Common Future*. Brundtland Commission Report. (Oxford: Oxford University Press, 1987). The definition of sustainable development is interpreted to include environmental protection objectives.

<sup>3</sup> From this point forward the clean energy sector refers to clean energy products and services unless otherwise noted.

<sup>4</sup> World Energy Council, *Global Energy Perspectives to 2050 and Beyond*, Mid-range Current Trends Forecast of Energy Demand. (Washington, DC: World Bank, 1995).

<sup>5</sup> *Capital Expenditures for Electric Power in Developing Countries in the 1990s*, Working Group Paper #21. World Bank Industry and Energy Department, (Washington, DC: World Bank, February 1990).

<sup>6</sup> *Fuel for Thought: Environmental Strategy for the Energy Sector*. (Washington, DC: World Bank, July 1999).

needs. According to WTO, virtually all of the 30 countries currently applying for membership are also developing nations or economies in transition.

While developing countries continue to request special treatment in the form of longer implementation periods for liberalization and certain protection for domestic industries under the multilateral trading system, membership in the WTO demonstrates their increasing interest in the economic benefits of trade. The growth and diversity of WTO members require reformed negotiating procedures as well as a negotiating agenda that will interest its new members. Initiatives such as clean energy liberalization that can be attractive to developing countries should be placed on the agenda.

These are just a few reasons why governments should promote liberalization of the clean energy sector as part of a sustainable trade agenda under the WTO. Opening clean energy markets shows that the environment can be protected through freer trade while also attracting support from key constituencies like developing countries that are expanding their energy infrastructure.

The Business Council for Sustainable Energy, a clean energy industry trade group, has written this paper in an effort to:

- Highlight the economic and environmental benefits of liberalizing the clean energy sector
- Identify common ground between trade and environmental policy
- Provide perspectives on how climate change policy and trade policy might intersect
- Encourage clean energy industries to engage in the WTO trade negotiations

The first section of this paper will provide reflections on the Seattle Ministerial and the WTO trade agenda. The second section will describe the energy and environment products and services sectors, provide background on how they have been considered under the WTO, and identify services and barriers to open markets for clean energy through the WTO framework. Section three will offer some preliminary views on how the international climate change convention and the Kyoto Protocol could impact the rules of the WTO. The conclusion will summarize the opportunities to open markets for clean energy under the WTO and provide recommendations for the clean energy industry and policymakers.

## **1. PERSPECTIVES ON SEATTLE**

The Third Ministerial Conference of the WTO held in Seattle, Washington ended on December 3, 1999 without achieving its prime objective—the launch of a broad multi-year negotiating round. Difficulties in reaching agreement are attributed largely to traditional trade disputes over agriculture policy and domestic political constraints. However, in the midst of the tough negotiations on traditional issues, non-traditional or “new” issues like the environment were given considerable attention by negotiators. In response to proposals by WTO members—including the United States—and prodding by the environmental community, incorporating environmental objectives into the multilateral trading system has become an issue on the WTO agenda.

### **BRIEF HISTORY: GATT AND THE WTO**

The General Agreement on Tariffs and Trade (GATT) was established in 1947 as an international organization to facilitate the free flow of goods under the international trading system. The World Trade Organization (WTO), the GATT’s successor, was created in 1995 by the Uruguay Round Agreements and serves to: administer trade agreements; act as a forum for trade negotiations; settle trade disputes; review national trade policies; assist developing countries in trade policy issues; and cooperate with other international organizations.

The environmental protests during the Ministerial have roots in the early 1990s and the highly contentious Congressional debates over the North American Free Trade Agreement (NAFTA) and the establishment of the WTO. Concerns about the impact of multilateral trade rules on the environment stem from trade disputes that were interpreted by some as undermining environmental regulations. The most notable of these disputes was between the US and Mexico over a US law that banned the import of tuna because of the process by which the tuna was caught.<sup>7</sup> The arguments underpinning the dispute panel decision undermine most environmentally-oriented trade measures and “raised the specter of environmental laws and regulations being routinely challenged and overridden by an obscure international trade tribunal with no environmental expertise or sensitivity.”<sup>8</sup>

<sup>7</sup> In 1991, a GATT dispute panel ruled that a US law, the Marine Mammal Protection Act of 1972, which banned tuna imports based on processing methods, was a violation of GATT rules.

<sup>8</sup> Esty, Daniel. *Greening the GATT: Trade, Environment and the Future*. (Washington, DC: Institute for International Economics, July 1994) Page 29.

During the Congressional debates that followed on NAFTA and the WTO, political compromise was reached to accommodate environmental concerns in order to gain approval of both agreements. Under NAFTA, the Commission on Environmental Cooperation was established to monitor environmental issues on the US - Mexico border and to mediate disputes over environmental regulations and trade liberalization within the region.<sup>9</sup> Under the WTO, the Committee on Trade and the Environment was created in 1995 with the purpose of reviewing and reporting on legal issues and elements of the WTO's dispute settlement rules that intersect with environmental policy. While constructive in increasing the visibility of environmental concerns, neither body places environmental protection on equal standing with trade liberalization objectives, nor is either tasked with integrating trade and environmental objectives fully within their respective institutions.

The protests in Seattle were an outgrowth of the preceding debates. At the beginning of a new century, the divide between the goals of environmental protection and trade liberalization is growing. If not reconciled, this tension stands to jeopardize the economic and social improvements they seek to achieve.

Much of the focus of non-governmental organization concerns on environmental issues under the WTO centers on interpreting trade law and reforming the dispute settlement mechanism to integrate environmental objectives. While the preamble to the agreement that creates the WTO includes sustainable development and environmental protection as guiding principles, how the principles are integrated within the trading system remains highly controversial.

#### INTRODUCTION TO THE AGREEMENT TO ESTABLISH THE WTO, ADOPTED APRIL 4, 1994

*Recognizing* that their relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.<sup>10</sup>

Some governments and observers promote liberalization of the clean energy sector as a vehicle to facilitate freer trade and help the environment. President Clinton, during his address to Ministers at the WTO Ministerial in Seattle echoed that call. "Finally, we must work to protect and to improve the environment as we expand trade.... We are committed to finding solutions which are win-win, that benefit both the economy and the environment, open trade and cutting-edge clean technologies, which I believe will be the next industrial revolution."<sup>11</sup>

With environmental protection now firmly on the trade agenda, emphasizing the positive forces that freer trade can harness to protect the environment will close the divide on trade and the environment and help to break the current impasse on launching a new round. Further, as developing countries invest in their energy infrastructure, clean and efficient energy sources and services will be a higher priority for them during trade negotiations.

#### RECOMMENDATION

Governments should promote market access for clean energy industries as part of a sustainable trade agenda under the WTO. This can be achieved through the "built in agenda" on services and the launch of a broad negotiating round.

## 2. MARKET ACCESS FOR CLEAN ENERGY PRODUCTS AND SERVICES

Expanding clean energy markets is an important tool to achieve sustainable development. Clean energy products and services include: low-carbon energy sources like natural gas; energy efficient goods like high-efficiency heating and cooling equipment and insulation; energy management technologies like cogeneration and services provided by energy service companies; and renewable energy products (wind, solar and geothermal power generation, among others).

<sup>9</sup> Canada did not agree to be subject to the dispute settlement mechanism under the Commission on Environmental Cooperation and developed a domestic procedure to ensure compliance with NAFTA.

<sup>10</sup> Introduction to the Agreement to Establish the WTO, WTO website: <http://www.wto.org/wto/legal/finalact.htm>.

<sup>11</sup> Excerpt from remarks by President William Jefferson Clinton. Luncheon in honor of the Ministers attending the meetings of the WTO. Seattle, Washington (1 December 1999).

As energy markets in developing countries become more privatized, nations realize economic efficiencies and improved performance from increased competition. This is likely to be expressed in the form of lower prices and greater diversity of products and services.<sup>12</sup> Generally speaking, reducing tariffs and removing NTBs are steps toward privatization and offer consumers access to new technology and sustainable energy sources.

## 2.1 COVERAGE OF THE CLEAN ENERGY SECTOR

Historically, trade negotiations have not focused on clean energy goods and services as distinct sectors. They are generally covered, with overlaps, under the energy or environmental goods and services categories. However, segments of the clean energy sector transcend other industries and certain clean energy products and services have been covered under previous GATT rounds and WTO agreements. Excluding petroleum products, tariff reductions for certain energy goods were achieved during the Uruguay Round through “requests and offers” and formula cuts for industrial goods.<sup>13</sup> In addition, liberalization of electronic instruments that facilitate energy efficiency were covered under the Ministerial Declaration on Trade in Information Technology Products that was concluded at the Singapore Ministerial Conference in December 1996.

Energy and environmental products and services are relatively new items on the trade agenda. Until the recent trend toward privatization, the energy and environment sectors were dominated by government-owned and-operated monopolies. While liberalization was achieved for certain energy-related industrial goods under previous rounds, the negotiations did not single out these sectors for liberalization. Also, many clean energy technologies are relatively new to the marketplace and therefore were not a focus of previous multilateral negotiations. Additionally, due to the broad scope and diversity of the products and services that make up the clean energy market, the industry has not coalesced around trade issues. These facts highlight important characteristics of the clean energy sector. It is young, diverse, dynamic, and in the process of being defined in the trade arena.

### RECOMMENDATION

Market-opening efforts should adopt a unified approach, focusing on clean energy goods and services together.

## THE ENERGY SECTOR

The energy sector generally covers goods and services related to energy generation, as well as products and services involved with energy-related construction, distribution, transportation, engineering, consulting, and management, among others. Many of the components necessary to generate, deliver and use energy also fall under other goods and services categories. A challenge for the sector is to identify all of its corresponding energy-related products and services as well as the goods and services that are distinct to the industry. For most of the negotiating rounds under the GATT, efforts to liberalize energy markets were thought to be outside of its scope on the basis of national security and energy security grounds.<sup>14</sup> As privatization proliferates, liberalization of energy markets will assume a higher profile on the trade agenda.

## THE ENVIRONMENT SECTOR

The environment sector has been defined as goods and services relating to pollution control, waste management, sewage treatment, remediation and consultancy services. Domestic and international environmental regulations have driven privatization and growth in these markets. As developing countries and economies in transition adopt and enforce environmental regulations, there will be an increased self-interest in liberalizing trade in environmental goods and services.

Because of the close link between clean energy goods and services, market-opening efforts should adopt a unified approach, focusing on both elements together either as part of a broad round and/or through sectoral initiatives. Market access is contingent upon the free movement of products and the delivery of services. The clean energy industry should emphasize this market reality to governments as they develop agendas for future negotiating rounds.

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<sup>12</sup> *Environmental Services*, Council on Trade in Services, (Geneva: WTO, 6 July 1998) Page 1.

<sup>13</sup> “Requests and offers” describes a procedure common to trade negotiations. Under this process, governments make requests for reductions in tariffs or NTBs in other countries in exchange for offers of reductions in domestic tariffs and NTBs. Formula cuts are across the board tariff reductions, usually by percentage. For example, under the Uruguay Round, the average trade-weighted tariff rate on all industrial products from all sources was reduced by 38 percent. Please see WTO, Staff Working Paper TPRD-98-02, *Multilateral Approaches to Market Access Negotiations*. (Geneva: WTO, May 1998). Petroleum products were excluded for the tariff cuts under the Uruguay Round.

<sup>14</sup> The exception for national security is under Article XXI of the GATT. The exception relating to the “conservation of exhaustible natural resources” is under Article XX(g) of the GATT.

## 2.2 STATUS OF TRADE NEGOTIATIONS UNDER THE WTO

An expected outcome of the WTO Ministerial in Seattle was the launch of a broad, multi-year negotiating round. Liberalization of certain energy and environmental goods under the Accelerated Tariff Liberalization (ATL) initiative was expected to be included in the negotiating agenda for the new round.<sup>15</sup> However, with the breakdown of talks and the impending presidential election in the US, it is unlikely that a comprehensive round will be initiated this year. In the short term, the failure to initiate a new round raises questions about the future of the ATL.

### LIBERALIZATION UNDER APEC: EVSL AND ATL

Proposals to eliminate tariffs and NTBs for certain energy and environmental goods and services were developed under the Asia-Pacific Economic Cooperation (APEC) in the late 1990s where it was known as Early Voluntary Sectoral Liberalization (EVSL). In 1997, APEC launched the EVSL initiative, which was aimed at the comprehensive liberalization of targeted sectors, including energy-related and environmental goods and services.

In 1998, APEC members approved sending the tariff elements of the EVSL initiative to the WTO for the purpose of seeking the critical mass necessary to conclude the agreements in 1999. The WTO tariff initiative was renamed Accelerated Tariff Liberalization (ATL) to distinguish it from the APEC EVSL initiative that covered non-tariff measures, trade facilitation and technical assistance. Moving the ATL to the WTO could expand commitments to non-APEC members, and make ATL commitments binding. However, no agreement on ATL was reached in Seattle. The US government is currently working with trading partners and with the private sector to determine how to proceed.

However, under the Uruguay Round Agreements, negotiations on the liberalization of services and agriculture commenced in January 2000. This is referred to as the “built-in” agenda from the Uruguay Round. Governments do not need to adopt any new international agreements to initiate the trade talks because they were mandated under the Uruguay Round Agreements.

Liberalization of service industries is negotiated under the General Agreement on Trade in Services (GATS).<sup>16</sup> At the close of the Uruguay Round, governments agreed on broad principles for trade in services as well as some basic commitments to liberalize specific service sectors. The new services negotiations will attempt to increase the quantity and scope of commitments and to expand coverage to new service sectors. The first formal meetings under the new GATS round were held in late February 2000. The first step to be taken by negotiators will be to adopt a negotiating agenda for services. In Seattle, a draft ministerial text was circulated to WTO members that outlined a comprehensive agenda for a new round. The services section included a broad definition of the services to be covered in the negotiations as well as deadlines for government liberalization commitments. The draft text did not identify specific service sectors, but energy and environmental services were intended to be included.

### EXCERPT FROM THE DRAFT MINISTERIAL TEXT, SERVICES SECTION, DECEMBER 3, 1999

“28. c) The negotiations, from which no service sector or mode of supply shall be excluded *a priori*, shall aim to promote the interests of all participants and to secure an overall balance of rights and obligations through the liberalization of services across a broad range of sectors. Special attention shall be given to sectors and modes of supply of interest to developing countries.”

In the aftermath of Seattle, the draft text on services is likely to guide negotiations under the GATS. The US maintains that the Ministerial meeting in Seattle is technically in recess, and therefore the draft negotiating text is still active and pending approval by WTO members. The European Union, Japan and Switzerland have indicated that the document is no longer active and may require WTO members to renegotiate it. Despite these different views, the services portion of the draft Ministerial text was not controversial, which should aid in reaching agreement on the GATS agenda. This issue is expected to be resolved in the early Spring 2000.

Given the questions about the scope of the GATS negotiations, both service industries and many governments are pushing to ensure that energy and environmental

<sup>15</sup> Some clean energy products are not represented in the ATL.

<sup>16</sup> The GATS was adopted as part of the Uruguay Round Agreements in 1994 to negotiate liberalization in services.

services will be considered in the new GATS round. Once the agenda is approved, the negotiators will focus on defining the sector categories and in some cases, modernize previously adopted categories. The next phase will focus on the negotiation of requests and offers of service sector commitments by governments.

As for energy and environmental products, there is a question as to whether the GATS negotiations will extend liberalization to the products necessary to deliver a particular service. For example, will the GATS facilitate liberalization of the energy efficient products necessary to implement energy management strategies? Some governments may not wish to reduce tariffs that protect local industries or they may not be aware of the goods associated with the delivery of a particular service. Coverage of clean energy goods could be accomplished by including assurances with service sector commitments that allow the free flow of equipment necessary to deliver specific services. Given the nature of the clean energy industry, market-opening requires simultaneous liberalization of goods and services. It is expected that WTO members will address this issue in the early stages of the services negotiations.

### 2.3 THE CLEAN ENERGY SECTOR AND GATS

As discussed previously, specific clean energy products and services could fall under several GATS categories, including energy or environment. Overlaps are potentially helpful, ensuring broad coverage and strong industry coalitions to promote a sector package, but they weaken the ability of clean energy interests to dominate a particular category. Another issue to consider is whether coverage under a particular sector affects the timing of reaching agreement on liberalization commitments. For example, the clean energy sector should consider whether there is momentum to reach agreement on a particular sector before others.

#### ENVIRONMENTAL SERVICES

Presently, the GATS environment classification does not include clean energy technologies in its core list of services. However, many countries, including the US and European Union (EU) members, have discussed clean energy technologies in the context of environmental goods and services liberalization in regional and multi-lateral trade fora.

Trade negotiators tend not to renegotiate previously approved sector classifications. This could work against efforts to seek coverage for the clean energy industry under environmental services. However, some WTO members have proposed modernizing the GATS environmental classification to reflect current market realities. This would be achieved by expanding definitions under existing classifications rather than creating new classifications.<sup>17</sup> Initiatives to modernize the environmental services classification may provide a vehicle to include the clean energy sector in the talks.

#### DEFINITIONS OF THE ENVIRONMENT INDUSTRY

“Eco-industries...may be described as including firms producing goods and services capable of measuring, preventing, limiting, or correcting environmental damage such as the pollution of water, air, soil, as well as waste and noise-related problems. They include clean technologies where pollution and raw material use is being minimized...”  
*European Commission, 1994*

“The environmental industry includes all revenue generating activities associated with: 1) compliance with environmental regulations; 2) environmental assessment, analysis, and protection; 3) pollution control, waste management, and remediation of contaminated property; 4) the provision and delivery of the environmental resources of water, recovered materials, and clean energy; and 5) the technologies and activities that contribute to increased energy and resource efficiency, higher productivity, and sustainable economic growth (enabling pollution prevention).”  
*U.S. Department of Commerce,  
Office of Technology Policy, 1997*

The environmental sector includes “activities which produce goods and services to measure, prevent, limit or correct environmental damage to water, air, and soil, as well as problems related to waste, noise and eco-systems. Clean technologies, processes, products and services which reduce environmental risk and minimize pollution and material use are also considered part of the industry.”  
*OECD Environmental Industry Manual, 1998*<sup>18</sup>

<sup>17</sup> The European Community’s Committee on Specific Commitments, and the government of Australia have proposed elaborating on the services classification under the GATS, either through modernizing core services and defining cluster services that support the core services, or by defining sub-sectors under the existing core service classifications. Interview with Rachel Thompson, OECD Trade Directorate, February 2000.

<sup>18</sup> APEC members used this definition as a basis of compiling the list of environmental goods to be covered under the ATL.

Energy services do not yet have a GATS classification. Developing a definition and core list of services for the energy sector is expected to be an objective of new GATS negotiations. APEC developed an energy services matrix as part of EVSL that defined core services. However, APEC's energy services work is not comprehensive and does not fully capture renewable energy aspects of the industry. To assist this process, a group of energy companies and trade associations, under the leadership of the Energy Services Coalition (ESC),<sup>19</sup> is working to develop a definition of the sector and a list of core services to be considered by the GATS. Since work on energy services is in its early stages, the clean energy sector should focus on gaining coverage under this category. Companies can participate in this work through the Business Council for Sustainable Energy as well as through the ESC.

#### DEFINITION OF ENERGY SERVICES

"Energy services are those services that comprise of, or are related to, the exploration, development, extraction, production, generation, transportation, transmission, distribution, marketing, consumption management and efficiency of energy, energy products and fuels."

*Energy Services Coalition, 2000*

As energy and environmental goods and services are negotiated under the GATS or a broader round, where and how to cover the clean energy sector will need to be addressed by industry and the WTO. However, the clean energy sector's initial focus should be to secure coverage. Where it is covered—under the energy sector, the environment sector, or others—should be a secondary concern.

The next steps for the clean energy sector will be to define its goods and core services and then seek coverage under the appropriate sector(s). Once coverage of the clean energy sector's core services is assured, the industry will need to compile a list of specific service activities, and the goods related to these activities, on a country-specific basis. Trade negotiators require specific information on tariffs and NTBs on a country-specific basis to develop negotiating strategies and potential requests and offers. In many cases, this information has not been centrally compiled by the clean energy industry. If the clean energy sector is to gain from future negotiations, it should develop these resources and actively promote its interests to WTO members.

#### RECOMMENDATIONS

The clean energy sector should:

1. Define its goods and core services
2. Seek coverage under the GATS and other initiatives
3. Compile a list of specific service activities, and the goods related to these activities, on a country-specific basis
4. Promote market access objectives to the US government and other WTO members
5. Develop multi-country coalitions of clean energy companies in support of clean energy sector liberalization

## 2.4 OPENING MARKETS FOR THE CLEAN ENERGY SECTOR UNDER THE WTO

Based on interviews with industry representatives, work undertaken by APEC on EVSL, and surveys of the energy and environment sectors, a basic list of services, barriers and goods can be identified for the clean energy sector. The items listed in this section can serve as a starting point for the clean energy sector to consider and build upon. Additionally, some of the goods, services and barriers listed may not be distinct to the clean energy industry because they are horizontal, or cut across multiple industry sectors. Further, some of the barriers identified would fall under other WTO agreements, like the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS),<sup>20</sup> or the Agreement on Government Procurement,<sup>21</sup> among others.

<sup>19</sup> The Energy Services Coalition (ESC) is a group of energy-related companies and trade associations working to pursue greater market access for energy services. For more information on the ESC, please contact Joe Hillings, ESC Co-Chairman, c/o Enron, 1775 Eye Street, NW, Suite 800, Washington, DC 20006, 202-466-9145; email: jhillin@enron.com.

<sup>20</sup> For more information on TRIPS, please see <http://www.wto.org/wto/intellect/intell2.htm>.

<sup>21</sup> For more information on the Agreement on Government Procurement, please see <http://www.wto.org/wto/govt/agreem.htm>.

## PRELIMINARY LIST OF CLEAN ENERGY SERVICES<sup>22</sup>

- Design and engineering services related to: configuration, use of technology, generation, transmission, distribution, project management, refurbishment and upgrade of clean energy projects.
- Generation of natural gas and renewable energy – including construction, operation, repair, and maintenance of electricity generation systems and facilities,
- Energy efficiency services related to supplemental or residual output from the facility, such as heat and/or steam.
- Transmission – including development, operation, maintenance, monitoring, and upgrade of transmission systems.
- Distribution – including movement of electricity, allowing delivery of electricity to residential, commercial and industrial users.
- Exploration, development and extraction services for natural gas.
- Refining and storage of clean energy – including supervision, auditing, and advisory services.
- Waste management and disposal – including pollution control and monitoring.
- Demand-side and other customer services – including energy audits, computer modeling, replacing and upgrading of equipment, metering, billing, and energy management and conservation services to enhance the efficiency of energy production, transmission and use.
- Research and development services for clean energy technologies.
- Trading, marketing and brokering of clean energy.
- Financial services related to electricity – including commodity and risk management.
- Electricity and energy efficiency equipment marketing and sales – including marketing of equipment related to the generation, conservation, efficiency, control, transmission, and delivery of electricity.
- Technical services related to technology transfer – including technical support for design, construction and operation of clean energy product assembly or manufacturing facilities.
- Services related to the design, implementation and training of methods and organizations for marketing and distribution of clean energy products.

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<sup>22</sup> The services listed in this section are based on EVSL and preliminary recommendations developed by the ESC.

## MARKET BARRIERS ENCOUNTERED BY THE CLEAN ENERGY SECTOR<sup>23</sup>

The barriers listed below often impact the costs associated with providing a clean energy product or service. These barriers occur in specific countries at varying degrees, with different market access impacts. The descriptions below focus on the most restrictive cases and should be considered as a starting point for the clean energy industry to modify and develop. Several specific examples are provided.

- Restrictions on foreign investment/establishment of companies
  - full commercial presence required
  - local partnership required to meet commercial presence requirements
  - discriminatory restrictions or quotas that limit the number of entities permitted to establish a commercial presence or a new business
  - import/export requirements that benefit local industries

*Example:* Foreign-owned companies in China are not permitted to engage in retail sales of imported products. This would impact US clean energy providers that want to sell equipment manufactured in the US to consumers in China. Also, for some industries, a foreign company in China cannot be the majority owner in a joint venture and is required to export at least 70 percent of its products made in China.

- Entry of stay for service personnel
  - vague or discriminatory visa restrictions for foreign professionals
  - limits on entry of stay for foreign professionals
  - authorization of visas contingent on performance testing including: employment creation; transfer of technology; level of foreign investments (nationally or by the individual firm); and local capacity building, among others

*Example:* Clean energy companies have had difficulty with quick entry of specialized personnel into certain countries, including Mexico, Canada and China. Specifically, the wind industry has experienced delays in sending technicians to Mexico to oversee installations of equipment. Further, it is difficult to obtain multiple-entry visas to China from its embassy/counselor in the U.S.

- Business and professional licensing requirements
  - unclear or arbitrary restrictions on business licensing
  - quotas on business licenses
- Codes, certifications and standards
  - discriminatory and inconsistent certification requirements favoring specific manufacturers (foreign or domestic)

*Example:* Segments of the clean energy industry have been disadvantaged by discriminatory equipment certification requirements in countries including India. Specifically, India formerly required wind turbines to meet certification requirements that favored European and local manufacturers. Also, fuel cell manufacturers have encountered multiple certification requirements in Europe that pose a leading barrier to market entry.

- Government procurement practices<sup>24</sup>
  - local preference laws
  - local content requirements
  - local partnership requirements
  - exclusion of foreign providers for particular sectors
  - multiple administrative departments with overlapping jurisdictions
  - unclear and unstable government policies
  - no neutral evaluating agent/system

*Example:* Former colonial ties sometimes affect government procurement practices in certain countries. For example, in many French colonies, government procurement bids are restricted to French-owned companies. In addition, in some countries like China, government agencies have different and sometimes-conflicting procurement policies.

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<sup>23</sup> The barriers listed below are partly based on the OECD's Working Party of the Trade Committee report, *Assessing Barriers to Trade in Services: Environmental Services*. (Paris: OECD, December 1998) and *International Market Access Issues Affecting US Environmental Companies: Product Manufacturers and Service Providers*. Market Access Subcommittee of the Environmental Technologies Trade Advisory Committee (Washington, DC: Department of Commerce, September 1999 Draft). The BCSE was a contributing author to the report.

<sup>24</sup> It will be important for the clean energy industry to consider US government procurement practices and subsidies as it develops its list of NTBs to assess the impact their removal may have on the sector. In many cases, requests and offers for liberalization are reciprocal.

- “Tied aid” financing<sup>25</sup>
  - mixed credit (grant plus standard credit)
  - long terms (15 - 40 years)
  - long grace period (2 -10 years)
  - low interest rate

*Example:* Several European nations, including Germany and Denmark provide tied-aid to assist domestic industries in project bids.

- Subsidies<sup>26</sup>
  - tax incentives or credits to local producers to protect domestic industry (land concessions, transmission lines, liability relief, import or export stations)
  - conventional, non-clean energy technology tax incentives or grants
  - tax incentives or grants to lower consumer heating or electricity costs
  - subsidies to energy intensive-industries
  - subsidies to local manufacturers

*Example:* Several developing countries subsidize diesel fuel for remote villages, which can disadvantage clean energy like renewable energy sources. These types of barriers are sometimes in the form of subsidized shipping expenses or subsidized diesel generators and have been encountered in Brazil and Indonesia. Also, some provinces in China provide subsidies to local manufacturers that allow the locally made, sometimes poorer-quality products to remain in the marketplace, thereby creating a barrier to outside and more-advanced products.

- Intellectual property rights protection
  - non-existent or weak enforcement of laws
  - lack of dispute settlement mechanisms
  - bureaucratic trademarking procedures
- Restrictions on advertising
  - air time restrictions on foreign purchased and/or produced advertisements
  - local labor or content requirements
- Customs and bank system issues
  - arbitrary customs delays
  - complicated banking system delays business transactions

*Example:* Arbitrary or excessive customs delays are often linked to corrupt customs personnel or practices and have been experienced in Russia, Indonesia and Morocco. Additionally, slow payment practices in countries like China create a barrier for certain clean energy companies.

- Contract decision-making
  - lowest price project approval criteria as opposed to life-cycle cost analysis
  - preferential treatment to certain providers

## CLEAN ENERGY GOODS

Market access for clean energy products can be achieved through sectoral initiatives like the ATL as well via broad negotiating rounds. In the absence of a launch of a broad round or the ATL in Seattle, identification of vehicles to pursue liberalization of industrial goods is a priority for many governments. While not complete, the ATL list of goods under the energy and environment sectors provides a foundation for the clean energy industry to build upon.<sup>27</sup>

Many clean energy companies did not participate in efforts to develop the EVSL package that was ultimately incorporated into the ATL. This is largely due to the youth of the clean energy sector, the relatively small size of many of its companies, and the lack of resources dedicated to track trade negotiations by the industry. Without high-profile trade negotiations, many clean energy companies are not aware of the trade-related vehicles that exist to open markets for the sector. The launch of a comprehensive round under the WTO would increase the visibility of trade liberalization efforts and demonstrate political will to open energy and environmental markets.

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<sup>25</sup> “Tied aid” is government-to-government subsidized financing that is tied to the purchase of goods and services from the country providing the financing. *Tied Aid*. Presentation by the Export-Import Bank of the United States (Ex-Im). (Washington, DC: June 1999). US firms in the clean energy sector are disadvantaged by tied aid provided to their competitors. Ex-Im tries to match foreign tied aid, but does not offer tied aid first.

<sup>26</sup> According to the World Bank, electricity consumption subsidies in developing countries are about \$100 billion annually. *Expanding the Measure of Wealth: Indicators of Environmentally Sustainable Development*. (Washington, DC: World Bank, 1997).

<sup>27</sup> For a list of the goods covered under the ATL, please refer to the WTO website: [www.wto.org](http://www.wto.org). Please see: [wt/gc/w/138](http://wt/gc/w/138) and [wt/gc/w/138add1](http://wt/gc/w/138add1) (26 January 1999).

### 3. PRELIMINARY VIEWS ON TRADE IMPLICATIONS OF THE UNFCCC AND THE KYOTO PROTOCOL

Clean energy products and services provide environmental benefits through the reduction of greenhouse gas emissions that contribute to global climate change and local air pollution, among others. In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted to stabilize greenhouse gas concentrations in the atmosphere to a level that would avoid “dangerous anthropogenic interference with the earth’s climate system.”<sup>28</sup> The UNFCCC includes voluntary commitments for most industrialized countries<sup>29</sup> to reduce their greenhouse gas emissions to 1990 levels by 2000. Developing countries do not have any commitments under the UNFCCC.

The UNFCCC does not include any trade provisions and specifically states that efforts to address climate change should not unduly restrict trade or provide a vehicle for domestic protection. However, how a WTO dispute panel will interpret measures to combat climate change should a challenge arise is uncertain.

#### UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, ARTICLE 3

“The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.”

The Kyoto Protocol was adopted in December 1997 and includes binding emission reduction targets and timetables for developed countries. Like the UNFCCC, developing countries do not have any commitments under the agreement. The Protocol includes three mechanisms to enable flexible implementation of the treaty: emissions trading, the Clean Development Mechanism and Joint Implementation.<sup>30</sup> The purpose of these mechanisms is to provide an economically efficient system for Parties to reduce their greenhouse gas emissions. While the Protocol allows for the adoption of these mechanisms, decisions on rules, modalities, and guidelines for verification and reporting, among other issues, were left for subsequent negotiations. The deadline for decisions on many of the outstanding

issues related to the flexibility mechanisms and the compliance regime under the Kyoto Protocol is November 2000, during the Sixth Conference of the Parties to the UNFCCC.

If emission reduction targets under the Protocol are agreed upon they will affect trade and investment flows. The level of impact is highly controversial and the subject of conflicting economic analyses.<sup>31</sup>

#### THE KYOTO PROTOCOL: IN BRIEF

The Kyoto Protocol, adopted by over 160 countries (including the United States) in December 1997, imposes mandatory greenhouse gas emissions reductions obligations on 38 developed countries. The emissions reduction target for developed countries, in aggregate, is 5.2 percent below 1990 levels between 2008 and 2012. Under the agreement, the US is committed to reduce its greenhouse gas emissions by 7 percent below 1990 levels in the first compliance period. The US has signed the treaty, but has not submitted the Protocol to the U.S. Senate for ratification.

The Kyoto Protocol includes language to ensure that emissions reductions under the treaty are achieved in a manner that will not distort trade. Despite these assurances, as mechanisms to reduce greenhouse gas emissions are developed, questions arise as to the Protocol’s impact on international trade policy. This section provides a brief overview of some of the key issues for the clean energy industry and governments to consider as the rules, guidelines and modalities for the flexibility mechanisms under the Kyoto Protocol are developed.

<sup>28</sup> *United Nations Framework Convention on Climate Change*. Adopted June 1992, entered into force in March 1994, and has been ratified by 181 countries as of December 1999. Please see the UNFCCC website for more information: [www.unfccc.de/](http://www.unfccc.de/).

<sup>29</sup> Industrialized countries and some economies in transition agreed to take on voluntary commitments to reduce greenhouse gas emissions under the UNFCCC. These countries were included in Annex I of the convention. Countries that did not take on a voluntary commitment under the UNFCCC are called “non-Annex I countries.”

<sup>30</sup> A fourth flexibility mechanism is included in Article 4 of the Kyoto Protocol. It allows Annex I Parties to meet their commitments jointly. The EU has requested to meet its commitments jointly (referred to as the “EU bubble”).

<sup>31</sup> A discussion of the economic costs associated with implementation of the targets under the UNFCCC or the Kyoto Protocol is beyond the scope of this paper. Please refer to the following sources for economic analysis of climate change mitigation regimes: *The Kyoto Protocol and the President’s Policies to Address Climate Change: Administration Economic Analysis*. (Washington, DC: July 1998) and *It Doesn’t Have to Hurt: Efficient, Clean, Low-Cost Approaches to Carbon Reduction*. (Washington, DC: Alliance to Save Energy and the Business Council for Sustainable Energy, November 1997).

### KYOTO PROTOCOL, ARTICLE 2, PARAGRAPH 3

The Parties included in Annex I shall strive to implement policies and measures under this Article in such a way as to minimize adverse effects, including the adverse effects on climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties...”

## 3.1 EMISSIONS TRADING AND WTO RULES<sup>32</sup>

Article 17 of the Kyoto Protocol allows Parties that have accepted an emissions reduction target and legal entities<sup>33</sup> to participate in emissions trading to meet their emissions reduction obligations. It is difficult to assess the relationship between international emissions trading and the WTO because the rules to guide emissions trading have not been adopted by the Parties to the Kyoto Protocol.

However, the relationship is not necessarily conflictual. First, trade specialists are participating in the development of the rules for emissions trading. This will assist with coordination and compatibility between the regimes. Second, it is not clear that the units traded under an emissions trading system will be subject to WTO rules. For example, the GATT does not regulate all internationally traded items, such as currency. Like currency, the units to be traded represent a holder's right. In the case of the emissions units, the holder has the right to emit greenhouse gases. Under this interpretation, WTO members would need to adopt a decision or a new agreement to place greenhouse gas emission units under its jurisdiction. It is unlikely that WTO members would take such action.

Even if this happens, major conflicts do not exist with fundamental WTO rules of non-discrimination or national treatment. Problems could arise if non-Annex I Parties are restricted from participating in emissions trading. However, current thinking suggests that non-Annex I Parties could buy and sell units, especially those generated from Clean Development Mechanism projects. Others interpret that developing countries could participate in trading as long as the units are generated and verified in Annex I countries.<sup>34</sup>

The services related to emissions trading, such as the functions performed by brokers or traders, could be covered under the GATS. This would not hamper the trading system and may help by providing a level interna-

tional playing field for emissions trading-related services.

A potential conflict with WTO rules arises depending on how the Parties distribute their emission credits domestically. The allocation of credits in a domestic market could impact the import or export of energy or energy-related products or services. For example, domestic distribution of emission credits could be interpreted by foreign competitors as a discriminatory subsidy, raising a challenge under the Agreement on Subsidies and Countervailing Measures (SCM).<sup>35</sup> An auction scheme is considered by some to be the distribution method least restrictive to trade, provided it does not discriminate against foreign producers or providers. Should a challenge arise, potential solutions include requests for exceptions under Article XX of the GATT or Article 8.2(c) of SCM. Article XX allows for certain exceptions to GATT rules, including actions “necessary for the protection of human, animal, or plant life or health.” However, Article XX is often narrowly defined, and it is not clear whether a GATT dispute panel would grant an exception in this case.<sup>36</sup>

Article 8.2(c) of SCM allows for a one-time exception to provide a subsidy to domestic industries to offset the costs associated with new environmental regulations. However, the restrictions linked to this subsidy do not fit the emissions allocation scenario.<sup>37</sup> Some have suggested amending Article 8.2(c) to include an exception to provide flexibility to meet greenhouse gas emissions

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<sup>32</sup> For a thorough summary of these issues and others, please refer to *International Trade and Climate Change Policies*, Duncan Brack with Michael Grubb and Craig Windram (London: The Royal Institute for International Affairs, 2000).

<sup>33</sup> Legal entities are non-government entities, including the private sector, non-governmental organizations, and academia.

<sup>34</sup> Brack, Grubb and Windram. Page 118.

<sup>35</sup> The Agreement on Subsidies and Countervailing Measures was adopted under the Uruguay Round Agreements. Subsidies are considered discriminatory if they are granted to a particular domestic industry or company, if they are linked to the export of subsidized goods, if they are contingent upon the use of domestic over imported inputs, or if they are found to cause adverse effects to foreign competitors.

<sup>36</sup> Werksman, Jacob. *Greenhouse Gas Emissions Trading and the WTO*. RECIEL vol.8:3. (1999).

<sup>37</sup> Article 8.2(c) allows subsidies to assist with the adaptation of existing facilities to new environmental regulations if they are: 1) one-time and non-recurring; 2) limited to 20 percent of the cost of adaptation; 3) covering the cost of replacing and operating the existing investment; 4) directly linked and proportionate to the environmental objective and do not cover any resulting cost savings; and 5) are available to all companies that can adopt the new technology.

objectives.<sup>38</sup> Governments must consider this issue as they develop domestic emissions trading structures.

### 3.2 COMPLIANCE STRUCTURES

As the compliance regime under the Kyoto Protocol is developed, consequences of non-compliance by a Party will be considered. One possible outcome of non-compliance is the imposition of a penalty in the form of an environmental trade measure. Trade measures include sanctions, import bans, trade bans or other restrictive devices, and result in varying degrees of trade distortion.

Trade provisions have been included in several multi-lateral environmental agreements (MEAs), specifically the Montreal Protocol, the Basel Convention on the Transboundary Movements of Hazardous Wastes and the Convention on the International Trade in Endangered Species, among others. A WTO dispute panel has not challenged any of the trade measures included in the MEAs mentioned above. However, the design of the trade provision, or its application, could lead to GATT incompatibilities.<sup>39</sup> In the event that two international treaties conflict, the Vienna Convention on the Law of Treaties is interpreted to give precedence to the most recently adopted treaty. However, this does not cover non-Parties to the agreements. Proposals to reform the WTO rules to create exceptions for certain MEAs and to cover non-Parties are generally supported by industry.<sup>40</sup> However, how the exceptions are crafted is complex and controversial. Industry should work with policymakers and the environmental community to develop the appropriate remedy. The WTO should not allow countries to benefit from opting out of MEAs.

#### RECOMMENDATION

The WTO should permit exceptions to its rules for widely supported MEAs, including coverage of non-Parties.

Trade measures are not the most direct way to influence environmental outcomes and are often discouraged as a first resort by proponents of trade liberalization. Less trade-distorting penalties should be explored to achieve a similar outcome before a trade provision is adopted. The development of facilitative vehicles to keep Parties in compliance is preferable to the imposition of a trade measure and has the added benefit of directly advancing the goals of the Protocol. For example, Parties are consider-

ing the establishment of vehicles, like a “compliance fund,”<sup>41</sup> that would allow Parties at risk of non-compliance to fulfill their commitments by investing in pre-approved projects that reduce greenhouse gas emissions.

Many governments, including the US, are pushing for a compliance regime with both facilitative and enforcement functions to emphasize Party compliance. Penalties in the form of trade sanctions are not being actively promoted by the leading negotiating coalitions.

### 3.3 PRODUCTION PROCESS METHODS

One of the most difficult issues to assess, and a possible area of conflict, relates to the ability of Parties to the Kyoto Protocol and WTO to restrict imports based on processing methods.<sup>42</sup> This could be an important issue depending on the domestic actions taken by Parties to meet their obligations under the Kyoto Protocol. For example, Parties may choose to adopt carbon taxes, performance standards, or labeling schemes, among other tools, to reach their targets. The GATT has two founding rules that could prohibit import restrictions based on processing methods. The first is Article I, which provides reciprocal most-favored nation status to all WTO members. The second is Article III, which requires that imported products be treated no less favorably than domestically produced products. Article XX of the GATT allows for certain exceptions to these rules, but does not specify production methods.<sup>43</sup> Dispute panels interpret GATT rules on a case-by-case basis, which does not provide a universal exclusion for process and production methods.

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<sup>38</sup> Assunção, Lucas. *Trade Rules and Climate Change Policy: Some Issues of Synergy and Conflict*. Paper distributed during the Third Ministerial Conference of the WTO. (Seattle: December 1999).

<sup>39</sup> For more information please refer to Esty, Chapters 6, and 9.

<sup>40</sup> The National Association of Manufacturers (NAM) and other industry representatives support GATT exceptions for “qualifying MEAs and the authorized use of trade measures for their enforcement.” *Clearing the Air: The WTO and American’s Public Health, Safety and Environment*. (Washington, DC: NAM, November 1999).

<sup>41</sup> A discussion of the vehicles under consideration by the Parties to facilitate compliance with the Kyoto Protocol is beyond the scope of this paper. Please refer to *The Compliance Fund: A New Tool for Achieving Compliance under the Kyoto Protocol* (Washington, DC: Center for International Environmental Law, June 1999). Please see <http://www.ciel.org/pubccp.html>.

<sup>42</sup> The production process method refers to the process by which a good is produced. For example, with regard to electricity, it could delineate the technology or fuel used to generate the electricity. However, whether electricity is defined as a good or service has yet to be decided by the WTO.

<sup>43</sup> Esty. Page 51.

To be consistent with GATT rules, a Party could adopt a domestic tax aimed at reducing greenhouse gas emissions or place a tax on products on the basis of their carbon content, as long as they are produced within their borders. Conflicts could occur if a country attempts to extend the tax to products produced in other countries through the imposition of countervailing duties or other types of restrictions. Countries where policies to reduce greenhouse gas emissions are not in place may interpret the measures as domestic subsidies and/or import barriers. Conversely, exporting firms could be disadvantaged when competing with in-country producers not subject to similar measures.

Developing countries strongly oppose efforts to restrict imports on the basis of processing methods, arguing that they are used to protect domestic industries and to impose domestic environmental regulations outside their jurisdiction. It is unclear whether this position would change if the Kyoto Protocol entered into force.

The issues raised in this section, as well as many others not covered, create new challenges for businesses and policymakers alike. The clean energy industry should work with governments to explore the implications of these issues for the international trading system as well as for efforts to reduce greenhouse gas emissions. Further, governments should consult with industry as these regimes are developed.

## CONCLUSION

Opening clean energy markets through multilateral trade negotiations under the WTO will help demonstrate the direct environmental benefits that trade liberalization can yield. Clean energy products and services reduce greenhouse gas emissions that contribute to global climate change and local air pollution. Access to these products and services increases the efficiency of energy production, delivery and use while saving financial and natural resources.

As energy markets privatize, developing countries will increasingly seek clean energy technologies to meet their dynamic and rapidly growing energy demand. Promoting clean energy market access as a top priority in any new round of trade negotiations will highlight the common ground on trade and environmental policy and help generate broad support for the negotiations.

Further, focusing on clean energy markets highlights common ground between constituencies that are sometimes

perceived as hostile opponents. Many within the business community tend to be skeptical of efforts to incorporate environmental issues under the WTO, while the environmental community is wary of the WTO's authority to override domestic environmental laws. Clean energy technology transfer through trade liberalization is an objective that both sides can agree upon because of the intersection between market expansion and technology diffusion goals. Businesses want to open new markets and the environmental community wants to diffuse clean energy technologies worldwide.

In order to capitalize on a new WTO round, the clean energy industry will have to become actively engaged and promote its interests. Due to the dynamic nature and relative size of the industry as well as its focus on near-term market development goals, allocating the resources necessary to participate could pose a challenge. However, many of the products, services and NTBs associated with the clean energy sector are also shared by conventional energy interests as well as other sectors, which can assist in building support for liberalization.

Finally, the clean energy sector has important experience and knowledge to contribute to the WTO and the UNFCCC. Questions are increasingly being raised about the impact a binding treaty to reduce greenhouse gas emissions will have on trade and investment flows. Clean energy companies know how to move their technology into new markets and can assist countries in meeting emissions reduction goals at low costs. Additionally, the sector is uniquely situated to inform trade specialists and environmental experts on how to craft market-based mechanisms that encourage clean energy investments while supporting the principles of free trade.

The clean energy industry has much to offer—and much to gain—from participating in new rounds under the WTO. Many governments, including the US, are eager to work with the industry to identify barriers and open new markets through a sustainable trade agenda. Making clean energy market liberalization a top priority under new rounds will build support for the negotiations, close the divide on trade and environmental policy, and help to restore faith in the WTO.

### RECOMMENDATION

The clean energy industry should work with governments to explore the relationship between the international trading system and efforts to reduce greenhouse gas emissions.

***The BCSE offers the following recommendations to policymakers and the clean energy industry to promote a sustainable trade agenda under the WTO:***

1. Market access for clean energy industries should be a priority under any new trade negotiating round.
2. Governments should promote market access for clean energy industries as part of a sustainable trade agenda under the WTO. This can be achieved through the “built-in agenda” on services and the launch of a broad negotiating round.
3. Market-opening efforts should focus on clean energy goods and services *simultaneously*.
4. The clean energy sector should:
  - define its goods and core services;
  - seek coverage under WTO agreements, including the GATS;
  - compile a list of specific service activities, and the goods related to these activities, on a country-specific basis;
  - promote market access objectives to the US government and other WTO members; and
  - develop multi-country coalitions in support of clean energy sector liberalization.
5. WTO members should develop vehicles and consider amending its rules to integrate the principle of sustainable development within the multilateral trading system.
6. The WTO should create exceptions to its rules for widely supported MEAs as well as to develop vehicles to cover non-Parties to the agreements.
7. The clean energy industry should work with governments to explore the relationship between the international trading system and efforts to reduce greenhouse gas emissions.



*1.5 kW United Solar Metal Roofing System. Courtesy Energy Conversion Devices*



*Natural Gas Taxi. Courtesy KeySpan Energy*



*Contractor reads the chiller control panel to assure that temperatures and pressures are within desired operating parameters. Courtesy Sempra Energy Services*



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